

2010 Interagency Gulf Oil Spill Monitoring - Water Summary – May 18, 2010

Pre and Post-Impact Sampling (Sampling area, # of sites, and Indicators)

- **EPA - Developing an Integrated Sampling Plan that combines the sample plans below**
 - **Nearshore (Regions 4 and 6) (50-70 site)**
 - Surface water and sediment samples for analysis of TOC, nutrients, total metals, volatiles, semivolatiles, pesticides/PCBs, and petroleum hydrocarbons (diesel range). In Situ water quality. Toxicity testing of water and sediment samples. (Adding Alkylated PAHs and dispersants to post sampling).
 - **Beaches – Region 4 (13 sites)**
 - TOC, metals + Hg, volatiles, semi-volatiles (including PAHs), TPH (GRO), TPH (DRO) and toxicity tests in water and sediments.
 - **National Coastal Condition Assessment (nearshore – entire Gulf) (~240 sites)**
 - Water - nutrients, chlorophyll, enterococcus. Sediment - total organic carbon, nutrients, metals, PAHs, pesticides/PCBs. Toxicity testing of sediment samples. Whole fish tissue-metals, and others. Benthic enfauna (from sediments). *In-situ* water quality (temperature, pH, salinity, dissolved oxygen, and light attenuation, etc.) (Considering complete suite of PAHs in water column, sediment and fish tissue; and dispersant suite)
- **NOAA**
 - **Offshore – (continental shelf) (post-impact only) (50 sites)**
 - Multiple indicators of biological condition (benthic communities and fish), chemical contaminant concentrations in sediments and fish (including oil-spill markers), and basic habitat characteristics (e.g., salinity, dissolved oxygen, pH, temperature, sediment grain size and TOC content, water-column nutrients and chlorophyll)
 - **Beaches, intertidal water**
 - Tar balls, water quality, sediment, tissue/biota (mussels, others), dead and stranded wildlife
 - **Mussel Watch Status and Trends (86 sites Gulf from Naples, FL to LA/TX border.)**
 - Contaminants in mollusks, benthics in sediment
- **USGS**
 - **Coastal wetlands, barrier islands, and coastal sand beaches.**
 - Document the existence of and identify any historic oil present including “fingerprints” of existing oil, PAHs, oil and grease, trace metals, volatile organic compounds, surfactants, DOC characterization, isomeric fingerprinting, bacterial populations capable of digesting oils, and nutrients.
 - **Toxicity (sea urchins) – Corpus Christi**
 - Sea urchin toxicity
- **Army Corps of Engineers**
 - **Nearshore LA (10-12 sites)**
 - Sediment – chemical analysis, bioassays. Water – organic analysis, VOA, metals, bioassays.
 - **Long term monitoring** is under consideration from Mobile Bay to Atchafalaya Bay

- Wind, currents, water quality, temperature, salinity, near realtime. Less than 10 meters depth.
- **Mobile Bay**
 - Baseline activities for ocean disposal and site designation offshore from Gulf Port, Mobile, Pensacola, Passcagoula (started 2004). Resampling area for sediment and water
- **Alabama - Nearshore transects, beaches, nearshore areas**
 - Oil/grease, volatiles, semi-volatiles.
- **Louisiana - Inshore sampling (pre-impact)**
 - Staffed for birds, mammals, turtles, recreational use, water sampling and submerged aquatics.
- **Texas – Mobile teams and tar ball sampling**

Dispersant Sampling (sometimes with additional sampling):

- **BP SMART - Surface Dispersant Application Sampling Plan Deep Gulf**
 - Visual observations, flurometer towed through dispersed oil, triplicate grabs analyzed for Spectrofluorometric analyses, alkane and PAH analytes, including the entire suite of PAHs and their alkyl-substituted homologues ranging from the mono-cyclic compounds BTEX (up to C3-benzenes) to the 2-, 3-, and 4-ring PAHs (naphthalenes, fluorenes, dibenzothiophenes, phenanthrenes-anthracenes, aphthobenzothiophenes, pyrenes and fluoranthenes, chrysenes, hopane, and the pyrogenic PAHs). dissolved oxygen, nitrogen (NO₂/NO₃ and TKN), dissolved organic carbon, pH, and toxicological analyses
- **EPA SMART Plan – Nearshore and deep gulf sampling (part of the integrated sampling plan)**
 - Visual observations, flurometer towed through dispersed oil, triplicate grabs analyzed for Spectrofluorometric analyses, alkane and PAH analytes, including the entire suite of PAHs and their alkyl-substituted homologues ranging from the mono-cyclic compounds BTEX (up to C3-benzenes) to the 2-, 3-, and 4-ring PAHs (naphthalenes, fluorenes, dibenzothiophenes, phenanthrenes-anthracenes, aphthobenzothiophenes, pyrenes and fluoranthenes, chrysenes, hopane, and the pyrogenic PAHs). dissolved oxygen, nitrogen (NO₂/NO₃ and TKN), dissolved organic carbon, pH, and toxicological analyses

Other Sampling

- **FWS – Mortality Bird Survey** (350 miles of refuges St. Louis Bay, LA to Indian Pass)
 - Observations along beaches, oil covered birds, carcasses
- **NEPs**
 - **Rookery Bay Estuary Program** - Continuing monitoring of colored dissolved organic matter to watch for oil issues.
 - **Sarasota Bay NEP – have baseline information and will be doing some pre and post-impact sampling (not specified.)**
 - **Barratarria-Terrabonne NEP – Nesting Bird Survey**

Satellite Imagery and Geospatial Data

NASA - Satellite imagery; radiance and albedo of oil, oil thickness, plane overflights

USGS – Geospatial information, images, video